

November 6, 2023



Geese on Crescent Lake, Portage la Prairie – November 2

News and notes

The next few weeks are going to be busy so I'll be posting news only posts until I have a bit more time.

Upcoming Event

- I am one of the presenters at the [CCME Convention 2023](#), November 6th to 7th, 2023.

Research

- [Zircon U–Pb–Hf isotope and geochemical constraints on the petrogenesis and tectonic setting of Mesoarchean granitoids from the Carajás province, Amazonian craton, Brazil.](#)
- Related to [last week's posting](#) on Botswana: [New insights into the tectonics and geodynamics of Botswana from intracrustal structures revealed by receiver function analysis.](#)
- [Growth faults and avalanches: Reconstructing Paleoproterozoic basins in the Pilbara and Kaapvaal cratons.](#)
- Crystallography of the earth's interior: [Crystal structure prediction at finite temperatures](#); Phys.org summary [here](#).

- Neodymium: [The continuing power of Nd isotope mapping in Precambrian orogenic belts: A demonstration from the Ontario Grenville Province.](#)
- [A kinematic model linking the Sevier and Laramide belts in the Idaho-Montana fold-thrust belt, U.S. Cordillera.](#)
- Fluvial geology: [Effect of short-term, climate-driven sediment deposition on tectonically controlled alluvial channel incision.](#)
- Coastal geology: [Coastal response to Holocene Sea-level change: A case study from Singapore;](#) Phys.org summary [here](#).
- Deep sea sedimentology and methane hydrates: [Simulation of methane hydrate formation in coarse- to fine-grained sediments in the Nankai Trough, Japan;](#) behind a paywall, Phys.org summary [here](#).
- Coral formation: [Anion elements incorporation into corals skeletons: Experimental approach for biomineralization and paleo-proxies.](#)

Paleontology

- How to: [A model of mass extinction accounting for the differential evolutionary response of species to a climate change;](#) Phys.org summary [here](#).
- [A new archosauriform species from the Panchet Formation of India and the diversification of Proterosuchidae after the end-Permian mass extinction;](#) Phys.org summary [here](#).
- [The rise of predation in Jurassic lampreys;](#) Science Alert summary [here](#).
- Fossil poop: [The first European woolly rhinoceros mitogenomes, retrieved from cave hyena coprolites, suggest long-term phylogeographic differentiation;](#) IFL Science summary [here](#).
- [Natural History Museum, London: Five new malformed trilobites from Cambrian and Ordovician deposits from the Natural History Museum.](#)
- Dinosaur teeth: [The dentary of hadrosauroid dinosaurs: evolution through heterochrony.](#)
- Ancient rhinoceros didn't have a horn: [Revision of the Late Miocene hornless rhinocerotids from Samos Island \(Greece\) with the designation of neotypes and implications for the European chiloteres;](#) Phys.org summary [here](#).
- Book review: [Project traces 60 million years of elephant evolution and how humans may be the species' undoing;](#) link to ordering the book [here](#).
- More [dust in the wind](#), K/P Extinction: [Chicxulub impact winter sustained by fine silicate dust;](#) Phys.org summary [here](#).
- [Jormungandr walhallaensis: a new mosasaurine \(Squamata: Mosasauoidea\) from the Pierre Shale Formation \(Pembina Member: Middle Campanian\) of North Dakota \(Bulletin of the American Museum of Natural History, no. 464\);](#) Eureka Alert summary [here](#).

Mining and Energy

- Mining and geopolitics: [China's grip on Africa's minerals sparks a US response](#).
- ['Bubbly' magmas may lead exploration teams toward untapped copper deposits](#).
- [Northern Graphite reopens North America's only producing mine](#); the uses of graphite are [here](#).
- The locals want mining, the Feds don't: [Savikataaq leads attack against MP's efforts to change Nunavut mining regulations](#).
- [U.S. Crude Production Breaks Records](#).
- [Oil Prices Set For A Second Consecutive Weekly Loss As War Premium Fades](#).
- [Exclusive: Nigeria brings major Dangote refinery to life with own oil supply](#).
- [Equinor Finds More Oil And Gas Near One Of The North Sea's Largest Fields](#).
- [First plasma fired up at world's largest fusion reactor](#); fusion energy is [20 years in the future](#) and always will be.
- [Why young workers are leaving fossil fuel jobs – and what to do if you feel like 'climate quitting'](#).

Glaciers and Climate Change

- [Southern limit of the Patagonian Ice Sheet](#).
- Ice age climate: [A multicentennial mode of North Atlantic climate variability throughout the Last Glacial Maximum](#); Phys.org summary [here](#).
- More ice age climate studies: [Oxygenated deep waters fed early Atlantic overturning circulation upon Antarctic glaciation](#); Phys.org summary [here](#).
- [Caribbean salinity anomalies contributed to variable North Atlantic circulation and climate during the Common Era](#); Phys.org summary [here](#).

Environmental Geology and Hydrogeology

- [Uncovering per- and polyfluoroalkyl substances \(PFAS\) with nontargeted ion mobility spectrometry–mass spectrometry analyses](#); Phys.org summary [here](#).
- Whiskey's for drinking, water's for fighting: [Hydro-Economic Analysis of the Colorado River Basin: A Comprehensive Framework for Water Management](#); Phys.org summary [here](#).
- [Saltwater Intrusion Vulnerability Assessment in Plymouth, MA – Compounding Effects of Sea Level Rise on Water Quality and Aquifer Sustainability](#); Phys.org summary [here](#).
- Protecting groundwater resources in California: [New California Law Bolsters Groundwater Recharge to Defend Against Severe Weather](#).

- Historical earthquake research: [Long-term patterns of earthquakes influenced by climate change: Insights from earthquake recurrence and stress field changes across the Korean Peninsula during interglacial periods.](#)
- More historical earthquake research: [All the People of Israel Are Friends: An Unknown Mid-Fifteenth Century Earthquake in the Marche Region \(Central Italian Apennines\) Recorded in a Coeval Hebrew Manuscript](#); behind a paywall, Phys.org summary [here](#).

Standard Caveat

The purpose of my weblog postings is to spark people's curiosity in geology. Don't entirely believe me until you've done your own research and checked the evidence. If I have sparked your curiosity in the subject of this posting, follow up with some of the links provided here. If you want to, go out into the field and examine some rocks on your own with the help of a good field guide. Follow the evidence and make up your own mind.

In science, the only authority is the evidence.